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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,171	12/05/2003	Nancy Cam Winget	72255/00013	8574

23380 7590 02/06/2007  
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EXAMINER
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GYORFI, THOMAS A

ART UNIT	PAPER NUMBER
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2135

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/729,171	Applicant(s) WINGET, NANCY CAM	
	Examiner Tom Gyorfi	Art Unit 2135	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 18-26 and 28-30 is/are rejected.
- 7) ☒ Claim(s) 7, 17 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                 |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                            | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/3/05</u> . | 6) <input type="checkbox"/> Other: ____                                                |

**DETAILED ACTION**

1. Claims 1-30 are pending examination.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 1/3/05 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 18-23, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,107,051 (hereinafter, "Walker I") in view of U.S. Patent Application Publication 2005/0032506 (hereinafter, "Walker II").

Regarding claims 1, 11, and 21:

Walker I discloses a method, system, and article of manufacture comprising:  
authenticating the mobile node with an access point to produce a key (col. 4, lines 10-37); establishing another key as a link layer session key to provide secure communication of messages and data between the mobile node and the access point

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(col. 4, lines 38-50); and associating the mobile node with the access point in said wireless network (Ibid).

Although Walker I does not explicitly disclose pairwise master and transient keys, or the explicit use of 802.11 wireless technology, Walker II subsequently discloses using such keys in a process to establish secure roaming in 802.11 networks (paragraphs 0020, 0022 and 0027). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the two Walker references. The motivation for doing so would be to reduce the number of messages needed to authenticate mobile nodes while preventing rogue access points from compromising the system (Walker II, paragraphs 0002 and 0003).

Regarding claims 2, 12, and 22:

Walker further discloses wherein said authenticating and said establishing are initiated before said re-associating (Walker I, col. 4, lines 38-40).

Regarding claims 3, 13, and 23:

Walker further discloses wherein said establishing establishes said pairwise transient key before said associating is initiated (Walker I, col. 4, lines 38-40; Walker II, paragraphs 0022 and 0027).

Regarding claims 8, 18, and 28:

Walker further discloses wherein said establishing includes performing an 802.11 4-way handshake to generate said pairwise transient key using said pairwise master key (Walker II, paragraph 0021).

Regarding claims 9, 19, and 29:

Walker further discloses wherein the authenticating includes producing said pairwise master key by at least one of retrieving said pairwise master key PMK from a cache memory of said access point (Walker II, paragraphs 0016, 0017, 0019, and 0022). Examiner also takes Official Notice that by merit of disclosing 802.1x technology in the disclosed system (Walker II, paragraph 0020), Walker also discloses executing an 802.1x extensible authenticated protocol EAP by the access point together with the authentication server of said wireless network to generate said pairwise master key (pursuant to MPEP 2144.03, Examiner refers Applicant to the "802.11b Wireless LAN Authentication, Encryption, and Security" reference supplied by the Applicant in the IDS filed 1/3/05, pages 10 and 11).

Regarding claims 10, 20, and 30:

Walker further discloses wherein said authenticating includes negotiating a security association type (Walker I, col. 2, lines 45-47; col. 4, lines 5-10).

5. Claims 4-6, 14-16, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker I and II as applied to claims 3, 13, and 23 above, and further in view of U.S. Patent Application Publication 2003/0093663 (hereinafter "Walker III").

Regarding claims 4, 14, and 24:

Although Walker discloses wherein said associating includes issuing an association request by said mobile node to the access point including identity information indicative of the mobile node holding a fresh/live pairwise transient key (Walker I, elements 400 and 402 of Figure 4), it is unclear if the identity information can be said to be a signature. However, Walker III discloses the use of signatures during the process of establishing new keys between a mobile device and access point (Walker III, paragraphs 0031). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate signatures into the authentication process disclosed in Walker's previously cited disclosures. The motivation for doing so would be to eliminate the possibility of generating session keys based on easily guessed passwords and IDs (Walker III, paragraphs 0007-0008; see also Walker II, paragraph 0022).

Regarding claims 5, 15, and 25:

Walker further discloses validating the signature information by the access point (Walker III, paragraph 0032) and delivering a protected group transient key from the mobile node to the access point, the group transient key being used to protect

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broadcast communication of the access point (Walker II, paragraphs 0028 and 0029); generating an association response to send to the STA containing an encrypted field protecting the GTK and including signature information indicative of the AP holding the same fresh/live key PTK as the STA (Walkers II and III, Ibid; and also Walker II, paragraph 0021).

Regarding claims 6, 16, and 26:

Walker further discloses validating the signature information by the STA and storing the encrypted GTK for use in multicast communications by the AP (Walker III, paragraphs 0032 and 0033); and forwarding a re-association confirmation message from the mobile node to the access point to confirm receipt of the group transient key by the mobile node (Walker II, paragraph 0029).

***Allowable Subject Matter***

6. Claims 7, 17, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**

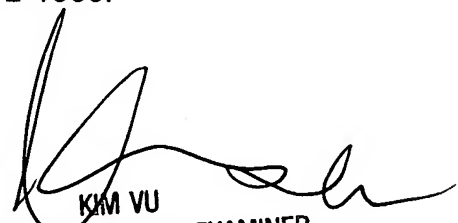
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent Application Publications 2004/006705, 2004/0003238, and 2003/0009660; and PCT Publication WO 01/82307.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Gyorfí whose telephone number is (571) 272-3849. The examiner can normally be reached on 8:30am - 5:00pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TAG  
2/1/07

  
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